

REMARKS

The present invention relates to an adhesive label comprising a circuit substrate, an entire data carrier element for a contactless data carrier system containing an IC chip on at least one surface of the circuit substrate, and an adhesive layer on the entire data carrier element; the adhesive layer can be applied to an article.

In the Office Action dated September 1, 2005, claims 1, 2 and 4-15 were rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over Tanimura et al. (U.S. Pat. No. 6,065,701) in view of “Applicants’ admission.”

In the present Amendment, the claims have been amended to replace the term “electronic components” in claims 1, 4, 5 and 7 with “an IC chip.” These amendments are supported by the specification, for example, at page 7, line 7 from the bottom. Moreover, claims 6, 12 and 14 have been amended to recite that the antenna coils of the data carrier element are separately formed on each surface of the circuit substrate. These amendments are supported by the specification, for example, at page 6, the first two paragraphs. Further, claims 6-8, 10, 12 and 14 have been amended to specifically recite a data carrier element comprising an IC chip and antenna coils. This amendment is supported by the specification, for example, at page 7, last paragraph. In addition, the claims have been amended for clarity. Claim 15 has been canceled. Claim 3 was previously canceled. No new matter has been added and entry of the Amendment is

respectfully requested. Upon entry of these amendments, claims 1, 2 and 4-14 will be all the claims pending in the application.

I. Response to Rejection Under 35 U.S.C. § 103(a)

Claims 1, 2 and 4-15 were rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over Tanimura et al. in view of “Applicants’ admission.”

Applicants respectfully traverse the rejection for the same reasons as set forth in the Remark section of the Amendment filed on August 15, 2005 and the following additional reasons.

(1) In the Office Action, it was asserted that “in the absence of any specific definition, the term ‘electric circuit’ clearly inherently reads on the instantly claimed ‘electronic components.’” See page 3, 2nd paragraph of the Office Action.

Applicants respectfully disagree with the Examiner’s statement. As set forth in the previous Amendment of August 15, 2005, the specification of the present application describes at pages 6 to 7, that the data carrier element of the present invention may be composed of electronic components and electric circuit. The “electric circuit” comprises lead wires and antenna coils, whereas the “electronic components” include, e.g., an IC chip, a battery, a capacitor, a resistor, a coil, a diode, or the like. See page 6 of the previous Amendment.

In addition, the specification of the present specification describes in the paragraph bridging pages 1 and 2, that a contact less data carrier element in a typical conventionally used adhesive label-type data carrier contains an electric circuit and electronic components such as an IC chip, a capacitor, a battery and so on.

Based on at least these passages, Applicants respectfully submit that the present specification clearly describes, and one skilled in the art would understand, that the phrases “electric circuit” and “electronic components” used in the present application are two distinct and mutually exclusive terms, contrary to the Examiner’s assertion that the term “electric circuit” inherently reads on the “electronic components.”

For the Examiner’s convenience, Applicants herein enumerate all of the sentences containing the phrases "electric circuit" and/or "electronic components" throughout the present specification as originally filed.

(a) " The contactless data carrier element contains, for example, an electric circuit 21 and electronic components 2 such as an IC chip, a capacitor, a battery and so on." (page 1, lines 5-2 from the bottom)

(b) "the contactless data carrier element may be prepared by separately forming a part of an electric circuit on each side of the circuit substrate 1, and connecting one to the other via a through-hole, to thus integrate the separately formed parts into a sole contactless data carrier element." (page 2, lines 2-7)

(c) "The electronic components forming the contactless data carrier element are thicker than the electric circuit" (page 2, the third paragraph)

(d) "the irregular or uneven structure formed due to the presence of electronic components on a flat circuit substrate of the contactless data carrier element" (page 2, the last paragraph)

(e) "The above object can be achieved by an adhesive label according to the present invention, characterized by comprising a circuit substrate, electronic components formed on one surface of the circuit substrate, and an adhesive layer on the electronic components to be applied to an article, which are sequentially laminated." (page 3, the first paragraph)

(f) "In another preferable embodiment of the present invention, a surface layer is provided on a circuit substrate surface that is a reverse side to a surface carrying the electronic components." (page 3, the third paragraph)

(g) "the contactless data carrier element containing an electric circuit 21 and an IC chip 2" (page 4, lines 6-8)

(h) "the resin layer 3 covering and sealing the contactless data carrier element containing the electric circuit 21 and IC chip 2" (page 4, lines 10-8 from the bottom)

(i) "the adhesive layer 7 covering and containing the contactless data carrier element containing the electric circuit 21 and IC chip 2" (page 4, lines 4-2 from the bottom)

(j) "when a part of the electric circuit is formed on a reverse surface to the surface carrying the electronic components such as the IC chip 2" (page 5, lines 11-13)

(k) "The adhesive label 10 as shown in Fig. 2 comprises the circuit substrate 1, the contactless data carrier element containing the electric circuit 21 and IC chip 2" (page 5, lines 18-20)

(l) "In the adhesive label 10 having the surface layer ..., a part of the electric circuit may be formed on each surface of the circuit substrate 1 and connected one to the other via a through-hole, ... to a contactless data carrier element. It is preferable to form a thinner electric circuit on the side of the surface layer. A thin electric circuit can be formed, for example, by printing the surface with a silver paste, or sputtering." (page 6, the first paragraph)

(m) "The circuit substrate ... is not particularly limited, so long as it will function as a support capable of stably carrying ... at least a part of the electronic components and the electric circuit of an entire contactless data carrier element on one surface, ... and at the same time stably carrying a part of the thin electric circuit on the other surface." (page 6, the second paragraph)

(n) "The contactless data carrier element formed on the surface of the circuit substrate may be composed of the electronic components and the electric circuit. The electric circuit comprises lead wires and antenna coils. The electronic components include, for example, an IC chip, a battery, a capacitor, a resistor, a coil, a diode, or the like." (page 7, the last paragraph)

(o) "The electric circuit may be formed on one surface of the circuit substrate by printing the surface with an electrically conductive resin" (page 8, lines 1-3)

(p) "an electric circuit and an antenna (thickness=10 μ m) were formed in accordance with a screen printing method, ... An IC chip ... was connected with the electric circuit" (page 10, line 5 from the bottom to page 11, line 1)

(q) "an electric circuit and an antenna were formed thereon by etching. An IC chip used in Example 1 was connected with the electric circuit by the flip chip bonding" (page 11, lines 4-2 from the bottom)

(r) "an electric circuit and an antenna ... were formed in accordance with a screen printing method ... An IC chip ... was connected with the electric circuit by a flip chip bonding" (page 12, the last line to page 13, line 5)

(s) "As shown in Table 1, a good printing was obtained without an influence of an irregular or uneven structure due to the electronic components, in the adhesive labels prepared in Examples 1 to 3. In the adhesive label prepared in Comparative Example, however, a resulting printing was influenced by the irregular or uneven structure due to the electronic components, and a pin hole occurred." (page 14, the third paragraph from the bottom)

In view of the above description, it is quite clear that the phrases "electric circuit" and "electronic components" are used as two distinct and mutually exclusive terms throughout the present specification.

In the present Amendment, Applicants have amended the claims to clearly recite "an IC chip" and "antenna coils," rather than "electronic components" and "electric circuit."

(2) Further, it was asserted that "Applicants have admitted that a contactless data carrier element mounted on one or both surfaces of a circuit substrate, with connecting through-hole in the latter case, is conventional and well known." Page 3, 1st paragraph of the Office Action.

Applicants respectfully disagree with the Examiner's statement that "Applicants have admitted that a contactless data carrier element mounted on one or both surfaces of a circuit substrate, with connecting through-hole in the latter case, is conventional and well known."

The passage in the specification of the present application relied upon by the Examiner describes that "the contactless data carrier element may be prepared by separately forming a part of an electric circuit on each side of the circuit substrate 1, and connecting one to other via a through-hole" (page 2, lines 2-4).

That is, what was known in the art was the contactless data carrier element prepared by separately forming a part of an "electric circuit", i.e., antenna coils, on each side of the circuit substrate. However, there is no description that the contactless data carrier element prepared by separately forming a part of "electronic components" on each side of the circuit substrate was known. In fact, no contactless data carrier element carrying a part of 'electronic components' on each side of the circuit substrate existed prior to the priority date of the present application. Further, as discussed above, the phrases "electric circuit" and "electronic components" are used as two distinct and mutually exclusive terms throughout the present specification.

(3) Still further, the Examiner noted the general principle that the claim to rearranged elements of the prior art has been held unpatentable when the rearrangement does not modify the operation of the article. See page 4 of the Office Action.

As set forth on page 7 of the Amendment filed September 9, 2005, in a typical conventionally used adhesive label-type data carrier, as illustrated in Fig. 3 of the present specification, the entire data carrier element (electronic components 2 and electric circuit 21) is formed on one side of circuit substrate 1, however, adhesive layer 5 is not in direct contact with the entire data carrier element. Moreover, in Tanimura et al, the data carrier element (antenna + IC20) is located on one side of substrate 16, and adhesive layer 17 is not in direct contact with the electronic components (Fig. 2). Accordingly, even if there might be motivation to combine Tanimura et al with “Applicants’ admission,” the resulting structure would still not be the present invention, wherein the adhesive layer is in direct contact with the electronic components.

MPEP 2144.04.VI.C states that “The prior art must provide a motivation or reason for the worker in the art, without the benefit of [Applicants’] specification, to make the necessary changes in the reference device,” citing *Ex parte Chicago Rawhide Mfg. Co.*, 223 USPQ 351, 353 (Bd. Pat. App. & Inter. 1984).

In the present case, Tanimura et al repeatedly emphasizes that the various elements are “adhered together *in that order* to form an integral assembly” (emphasis added, col. 2, lines 34-

35 and 52-53; Figures). Therefore, Applicants respectfully submit that Tanimura et al teaches away from rearranging its elements. In other words, there is no motivation or reason in Tanimura et al to rearrange the elements.

Furthermore, Applicants respectfully submit that the present invention provides unexpectedly advantageous effects.

Specifically, the present invention provides a thin adhesive label-type contactless data carrier which can eradicate the influence of the irregular or uneven structure due to the presence of electronic components, particularly, an IC chip, on a flat circuit substrate.

The adhesive label, that is, the contactless data carrier, according to the present invention, has advantageous effects over Tanimura in that it is thinner, and it can be manufactured with fewer steps and with lower manufacturing cost.

Further, as a result of low cost, thinness, and good printability of the surface, adhesive labels according to the present invention have now achieved commercial success (e.g., in Japan), and are favorably accepted by many Japanese users. Particularly, an adhesive label on which legible information and elaborately designed patterns can be printed is highly desired in the market. The adhesive label according to the present invention has excellent printing properties and thus can satisfy such demand.

II. Summary of Substance of Interview

The Examiner and Applicants' representative conducted a telephonic Interview on December 21, 2005. During the Interview, the § 103 rejection and the prior art were discussed and no agreement was reached.

III. Conclusion

In view of the above, reconsideration and allowance of claims 1, 2 and 4-14 are now believed to be in order, and such actions are hereby earnestly solicited. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

Respectfully submitted,

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